Variations in mortality of the coloured, white and Asian population groups in the RSA, 1978 - 1982

Part VI. Ischaemic heart disease


Summary

An analysis of ischaemic heart disease (IHD) mortality for the period 1978 - 1982 showed markedly different rates for the Asian, white and coloured population groups in the RSA.

Age-specific and age-standardised rates for Asians were in general considerably higher than those for whites, and did not show the marked decline with time observed in rates for whites.

Although coloureds were seen to have considerably lower age-standardised rates than Asians or whites of the same sex, an increase in the age-standardised rates for coloured males over a 10-year period and a slight decrease among females suggested that rates for coloureds may be in the process of approaching those for the other groups.

The observed decline in IHD rates among whites of both sexes suggests that preventable major risk factors may be coming under control, apparently to a greater extent in this group than among Asians or coloureds.

Department of Community Health, University of Cape Town and Groote Schuur Hospital, Cape Town

C. W. DERRY, B.SC. (MED.) HONS, D.T.E.
D. E. BOURNE, B.SC., B.PHIL.
A. R. SAYED, M.SC.
P. B. DISLER, M.B. B.CH., F.C.P. (S.A.), PH.D., DIP. COMM. HEALTH
M. R. RIP, B.SC. HONS, M.SC. (MED.) COMM. HEALTH
S. P. TAYLOR, M.B. B.CH.

Department of Family and Community Health, Technion - Israel Institute of Technology, Carmel Hospital, Haifa, Israel
L. EPSTEIN, M.B. CH.B., M.P.H.

Ischaemic heart disease (IHD) has been described as the leading cause of death of white South Africans in the economically active period of their lives, the age-standardised mortality rates (MRs) for males being higher than those in a number of countries with high IHD mortality. Other population groups in South Africa may also be severely affected; the hospital incidence of IHD in Asians has been reported to be exceptionally high, and coloureds are known to have a markedly high prevalence of coronary disease.

Against this background a comparative study of IHD mortality in South Africa by age, sex and (in official South African terms) race was carried out for the years 1978 - 1982 inclusive.

Methods

IHD mortality data for Asians, coloureds and whites were obtained for the years 1978 - 1982. Blacks were excluded from the analysis, since both numerator and denominator data are known to be inaccurate. Age-specific MRs were calculated using the 1980 census as denominator, the Asian, white and coloured census population aged over 25 years being used as the standard population for the calculation of age-standardised rates. The detailed methodology, including that employed to standardise data used for comparison, and potential sources of error when death certificates are used, was described in the first article in this series. Deaths occurring below the age of 25 years were omitted from the calculations, since they were few and the pathogenesis may differ from deaths in the remainder of the population.

In the second part of the study the mean age-standardised MRs were recalculated for the study period using the 1970 white male population as standard and including only deaths in the 15 - 64-year age groups to facilitate comparison with 1970 rates similarly standardised and reported by Wyndham in 1982.

The rubrics of the 9th revision of the International Classification of Diseases which constitute IHD are shown in Table I.

Results

Age-specific MRs (Figs 1 and 2)

Mean age-specific MRs increased with age, exceeding 2000/100,000 among Asian males and white males and females in the
TABLE I. ISCHAEMIC HEART DISEASE AS CODED IN ICD-9

<table>
<thead>
<tr>
<th>Rubric</th>
<th>Diagnosis</th>
</tr>
</thead>
<tbody>
<tr>
<td>410</td>
<td>Acute myocardial infarction</td>
</tr>
<tr>
<td>411</td>
<td>Other acute and subacute forms of ischaemic</td>
</tr>
<tr>
<td></td>
<td>heart disease</td>
</tr>
<tr>
<td>412</td>
<td>Old myocardial infarction</td>
</tr>
<tr>
<td>413</td>
<td>Angina pectoris</td>
</tr>
<tr>
<td>414</td>
<td>Other forms of chronic ischaemic heart disease</td>
</tr>
</tbody>
</table>

An appreciably higher mean annual age-standardised MR was noted for Asians of both sexes than for the equivalent groups of whites; in contrast, the rates for coloureds were markedly lower than those for whites (Table II).

In order to examine possible changes in rates over a long time period, the 1970 age-standardised MRs for the three race groups between the ages of 15 and 64 years were extracted from published data and compared with mean age-standardised MRs prepared in the present study for the period 1978 - 1982. The rates for whites were found to have decreased (males -17%, females -16%), while...
percentage changes for other groups ranged from +0.5% to −4%, with the exception of coloured males, who showed an increase of 6% (Table III).

Discussion

Markedly different MRs for IHD were found in the three population groups studied. Highest of all were the rates for Asians — the phenomenon of higher MRs for IHD among Asians living in Western countries than among local whites has previously been recorded in the RSA and in the UK. Factors cited as contributing to this phenomenon include hypertension and genetic predisposition. In addition, Asians are known to have an extremely high prevalence of diabetes in hypertension and genetic predisposition. In addition, Asians have previously been recorded in the RSA and in the UK. Factors cited as contributing to this phenomenon include hypertension and genetic predisposition. In addition, Asians are known to have an extremely high prevalence of diabetes and hypertension.

In contrast, coloureds in general were seen to have far lower age-standardised MRs for IHD than Asians or whites of the same sex. However, the increase noted in rates for coloured males and the low percentage decrease for coloured females over a period of approximately 10 years suggests that rates for coloureds may be in the process of approaching those for other groups.

This is supported by the relative increase in the age-specific MR for coloured females, with a decrease in age in comparison with rates for females of other race groups.

Against this background the fall in age-standardised MRs over the 10-year period among whites of both sexes was most interesting. If the generally accepted hypothesis regarding ‘major risk factors’ such as hyperlipidaemia, hypertension and smoking is indeed true, this may suggest that these factors are coming under control in white South Africans, apparently to a greater extent than in Asians or coloureds. Whatever the causes, the differences are marked; it is clear that the situation demands investigation, and we hope that from this may flow a better understanding of the pathogenesis of this important disease, ultimately resulting in its improved control.

The authors would like to thank the South African Medical Research Council, the Water Research Commission, and the University of Cape Town (Cooper Lowveld Trust) for partial financial assistance.

REFERENCES


| TABLE III. AGE-STANDARDISED MRs FOR IHD AMONG ASIAN, WHITE AND COLOURED MALES AND FEMALES FOR 1970 COMPARED WITH MEAN RATES FOR 1978 - 1982* |
|-----------------|-----------------|-----------------|
|                 | 1970            | 1978 - 1982     | Change % |
| **Asians**      |                 |                 |          |
| Males           | 274.1           | 275.6           | +0.5     |
| Females         | 118.9           | 114.4           | −3.8     |
| **Whites**      |                 |                 |          |
| Males           | 247.1           | 206.0           | −16.6    |
| Females         | 72.6            | 61.1            | −15.8    |
| **Coloureds**   |                 |                 |          |
| Males           | 125.3           | 133.3           | +6.3     |
| Females         | 64.3            | 62.7            | −2.5     |

*Rate per 100,000 population. Only deaths in the 15 - 64-year age groups included.